

In the Claims

1 1. (currently amended) A method for measuring the presence of oncogenic
2 activity of intracellular chemical reactions in a cell or cells comprising:

3 providing substrate molecules for ~~an~~at least one
4 oncoprotein ~~containing~~ a label, the labeled substrate molecules
5 corresponding to chemical reactions whose activity is to be
6 measured;

7 providing for the presence of ~~disposing~~ said substrate
8 molecules within said cell or cells;

9 allowing said substrate molecules within said cell or cells to
10 take part in the chemical reaction to produce altered substrate
11 molecules;

12 liberating said substrate molecules and said altered
13 substrate molecules from ~~the single cell~~;

14 detecting the label to distinguishably identify the substrate
15 molecules and/or the altered substrate molecules from said cell or
16 cells; and

17 determining the presence of said chemical reaction from the
18 presence of modified substrate.

1 2. (original) The method of claim 1 further comprising quantifying the
2 amounts of detected altered substrate molecules and/or detected unaltered substrate
3 molecules.

1 3. (currently amended) The method of claim 1 wherein said intracellular
2 chemical reaction in said cell ~~comprises~~ enzyme catalysis by a kinase to alter the
3 chemical structure of the substrate molecules.

1 4. (currently amended) The method of claim 1 wherein said altered
2 substrate molecules exhibit a an altered stereoisomeric form ~~change in chemical~~
3 ~~structure~~ as compared with the unaltered substrate molecules.

1 5. (original) The method of claim 4, wherein separating said unaltered
2 substrate molecules and said altered substrate molecules comprises electrophoresis.

1 6. (currently amended) The method of claim 2 wherein quantifying the
2 amounts of detected altered substrate molecules and/or detected unaltered substrate
3 molecules comprises detection of the label by fluorescence following separation by
4 electrophoresis.

1 7. (currently amended) The method of claim 1/ wherein providing for the
2 presence of disposing said ~~unaltered~~ substrate molecules within said cell or cells
3 comprises determining the presence of and using a naturally occurring substrate
4 molecule within said cell or cells, inducing said substrate molecule to be produced
5 within said cell or cells, or introducing said substrate molecule into said cell or cells from
6 outside said cell or cells.

1 8. (original) The method of claim 7 wherein introducing said ~~unaltered~~
2 substrate molecules into said cell or cells from outside said cell or cells comprises
3 microinjecting, electroporating, optoporation, vesicle fusing, pinocytotic loading, or
4 associating said substrate molecules with membrane permeant peptides.

1 9. (currently amended) The method of claim 1 further comprising chemically
2 stimulating said cell or cells while said unaltered substrate molecules are intracellularly
3 present prior to liberating said ~~unaltered~~ substrate molecules and said altered substrate
4 molecules from the single cell or cells.

1 10. (currently amended) The method of claim 9—2 further comprising
2 chemically stimulating said cell or cells while said ~~unaltered~~ substrate molecules are
3 intracellularly present prior to liberating said unaltered substrate molecules and said
4 altered substrate molecules from the single cell or cells, and further comprising
5 comparing activity of said chemical reaction with a similar activity determined from said
6 single cell or cells that has not been stimulated.

1 11. (original) The method of claim 1, wherein liberating said ~~unaltered~~
2 substrate molecules and said altered substrate molecules from the cell or cells
3 comprises chemical disruption of said ~~single~~ cell or cells, mechanical disruption of said
4 ~~single~~ cell or cells, or by electrical disruption, or by a combination thereof.

1 12. (currently amended) The method of claim 1, wherein the label is selected
2 from a group consisting of fluorescent labels, isotopes, labels exhibiting spectrally
3 preferred ranges of optical absorption, and characterizing electron spin resonance
4 labels.

1 13. (original) The method of claim 1 wherein the substrate molecules are
2 polymers.

1 14. (original) The method of claim 13 wherein the polymers are selected from
2 a group consisting of peptides, polysaccharide, and nucleic acids.

1 15. (original) The method of claim 14 wherein said polymers are modified with
2 a fluorescent label.

1 16. (currently amended) The method of claim 14 wherein said peptides are
2 substrates for a kinase that alters said ~~modified~~ peptides by the addition of a phosphate
3 moiety to a particular amino acid within each peptide.

1 17. (original) The method of claim 16, wherein said peptide has been
2 modified by covalent addition of a fluorescent group.

1 18. (original) The method of claim 1, said substrate molecules comprise
2 carbohydrates, phospholipids, entire proteins, or organic compounds not ordinarily
3 found within the cell.

1 19. (original) The method of claim 1 wherein detecting the label comprises
2 performing voltammetry or mass spectrometry.

1 20. (original) The method of claim 1 further comprising simultaneously
2 performing each of said steps with a plurality of different substrate molecules, each
3 reporting on a specific chemical reaction within said cell or cells.

21. – 53. (cancelled without prejudice)